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AUTHOR Wang, M. C.; And Others
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ABSTRACT

Educational resilience is defined as the heightened likelihood of success in school and in other life accomplishments, despite environmental adversities. This paper summarizes the concept of resilience as it has been advanced in developmental psychopathology and discusses educationally relevant research that is consonant with the definition of educational resilience. The focus is on conditions amenable to change within communities, homes, student peer groups, schools, and classrooms. Research has found that some children escape adversity without lasting damage, and that the active role of the individual is an important factor in survival. Resilient children have been observed to perceive experiences constructively and to have a clear sense of purpose about their future agency in controlling their own fates. Only a few studies have provided direct evidence on whether a particular set of school characteristics is effective in fostering student resilience in inner city schools, but schools that emphasize student involvement and belonging have been found to offer protection against adversity. Characteristics of communities that foster resilience are also those that promote a sense of involvement. Fostering resilience requires parent and teacher involvement and peer support to increase the protection against adverse influences. Research to identify the specific practices and policies that foster resilience is needed to design effective interventions. (Contains 110 references.) (SLD)

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Educational Resilience in Inner Cities

by M. C. Wang, G. D. Haertel, & H. J. Walberg

The National Center on
Education in the Inner Cities

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INTRODUCTION

As the decade of the 1990s unfolds, the nation's attention has been captured by the plight of children and families in a variety of risk circumstances, and by the urgency for interventions that foster resilience and life chances of all children and youth. Problems of great severity exist for many children, youth, and families in this nation's major cities, particularly the inner-city communities. The quality of life available to children and families in these communities is threatened by a perilous set of modern morbidities that often involve poverty, lack of employment opportunities, disorderly and stressful environments, poor health care, children born by children, and highly fragmented patterns of service. Although intended as special resources for children, inner-city neighborhoods have fallen into physical and psychological despair, causing further erosion in students' lives and prospects.

In responding to such challenges, researchers are focusing on factors that strengthen the resources and protective mechanisms for fostering healthy development and learning success of children and youth in the inner cities. For the purposes of this paper, educational resilience is defined as the heightened likelihood of success in school and in other life accomplishments, despite environmental adversities, brought about by early traits, conditions, and experiences.

The dual purposes of this paper are to: (a) briefly summarize the concept of resilience as it has been advanced in developmental psychopathology, and (b) discuss educationally relevant research consonant with our definition of educational resilience. Since educational theorists and practitioners are interested in alterable policies, the focus is on potentially malleable conditions within communities, homes, student peer groups, schools, and classrooms.

RESILIENCE: A PRODUCTIVE CONSTRUCT

Since the 1970s, developmental psychopathology (Cicchetti, 1990) has grown rapidly as a scientific discipline. It has provided an integrative framework for understanding maladaptation in children and adolescents. Topics of concern have included the roles of risk, competence, vulnerability, and

protective factors. Each of these topics has been related to the onset and course of development of psychopathology.

Many of the contributions to the field of developmental psychopathology have been made by distinguished researchers in clinical psychology, psychiatry, and child development. These researchers provided early information documenting the phenomenon of psychosocial resilience in diverse, at-risk populations (Rolf, Masten, Cicchetti, Nuechterlein, & Weintraub, 1990). Among the at-risk populations studied are children with family histories of mental illness (Goldstein, 1990); of divorced parents (Wallerstein, 1983; Watt, Moorehead-Slaughter, Japzon, & Keller, 1990); exposed to high levels of maternal stress (Pianta, Egeland, & Sroufe, 1990); addicted to drugs (Newcomb & Bentler, 1990); born at medical risk (O'Dougherty & Wright, 1990); exposed to family violence (Straus, 1983); exposed to early parental death (Brown, Harris, & Bifulco, 1986); and in poverty (Garmezy, 1991).

These studies and many others led to a new developmental model of psychopathology that addresses both vulnerability and resistance to disorders and spanned the years from infancy through adulthood. The findings demonstrate that some children escape adversity without lasting damage. They provide a rich theoretical and empirical basis for new programs of educational research that can identify ways to foster and sustain the learning success of many at-risk students.

The contribution of studies of atypical, pathological, or psychopathological populations is clear. However, researchers are paying increasing attention to both atypical and typical patterns of development. Using results from the study of children who are at risk but able to "beat the odds" allows researchers to expand upon the developmental principles on which the theories of developmental psychopathology are based. Studies of at-risk populations, including those who "beat the odds," identify the many pathways that lead from childhood to adulthood. These studies identify which factors are most important to healthy development, for example, physical, socioemotional, cognitive, and environmental.

A New "Vocabulary of Risk"

As developmental psychopathology established itself as a new discipline, a "vocabulary of risk" emerged. Constructs such as vulnerability, protective factors, adaptations, and competence have provided the conceptual tools for ground-breaking work; they clarified and furthered our understanding of factors that enable individuals to successfully overcome adversities and challenges in development and learning. Within this exciting new field of study, the construct of "resilience" emerged.

Rutter (1990) defined "resilience" as the "positive pole of the ubiquitous phenomenon of individual differences in people's response to stress and adversity" (p. 181). Masten, Best, and Garmezy (1990) refer to the resilience phenomenon as the "capacity for or outcome of successful adaptation despite challenging or threatening circumstances" (p. 425). They further note that resilience concerns "behavioral adaptation usually defined as internal states of well-being or effective functioning in the environment or both. Protective factors moderate the effects of individual vulnerability or environmental hazards so that the adaptational trajectory is more positive than would be the case if the protective factor were not operational" (p. 426).

The field of prevention, where researchers and practitioners work to eliminate or at least delay the onset of problems such as alcohol and drug abuse, teenage pregnancy, delinquency, and school dropout, also employs this new vocabulary. These researchers and practitioners identify and describe "protective factors" and methods for building resilience in children and youth.

The Critical Role of Activity in Resilience

Why has the construct of resilience received so much attention over the past decade? The answer to this question is found in prospective studies that focus on individuals believed to be at high risk for developing particular difficulties: children exposed to neonatal stress, poverty, neglect, family violence, war, physical handicaps, and parental mental illness. These studies provide rich data bases from

longitudinal studies that span several decades of new research aimed at identifying the processes underlying adaptation, successful trajectories, and pathways from childhood to adulthood.

As researchers gained insight into the risk factors that promoted the onset of a disorder, a puzzling but consistent phenomenon began to surface. Although a certain percentage of children in high-risk circumstances developed psychopathologies, a larger percentage did not develop disorders and became healthy and competent adults (Garmezy, 1991; Rutter, 1966, 1987; Watt et al., 1984). The often-reported statistic that only one out of four children born to alcoholic parents will become alcoholic (Benard, 1991) is a case in point.

The active role of the individual has been identified as an important factor in surviving stressful circumstances (Rutter, 1990). Individuals' responses to stressful circumstances vary, and what they do is the critical factor in whether they emerge successfully. Passivity in the face of adversity rarely provides the necessary information for an individual to develop strategies that can be useful in stressful conditions. The activity of resilient individuals serves as a self-righting mechanism that provides feedback that can be used to identify productive strategies in order to emerge unscathed from adversity.

Characteristics of Resilient Children

Resilient children, described by Garmezy (1974) as working and playing well and holding high expectations, have often been characterized using constructs such as locus of control, self-esteem, self-efficacy, and autonomy. A profile of resilient children that has emerged from the work of the Western Regional Center for Drug-Free Schools and Communities (Benard, 1991) includes such descriptors as strong interpersonal skills, a capacity to be responsive to others, a high level of activity, and flexibility. Resilient children were observed to perceive experiences constructively; they maintain healthy expectations, set goals, and have a clear sense of purpose about their future agency in controlling their own fate.

One construct that has shed some light on childhood resilience is "learned helplessness" (Seligman, 1975). Resilient children, as described in the research literature, rarely exhibit the passive behaviors associated with learned helplessness. Benard (1991) has concluded that resilient children's high expectations, belief that life has meaning, goal direction, personal agency, and interpersonal problem-solving skills coalesce into a particularly potent set of personal attributes. These attributes reduce the propensity of resilient children to exhibit the debilitating behaviors associated with learned helplessness. Seligman (1991) has recently published a new book entitled Learned Optimism that reviews research on the value of positive belief systems for life success. Although he does not address resilience directly, the behaviors and beliefs he describes are in concert with empirical findings on the psychosocial characteristics of children who overcame life adversities (i.e., resilient children).

A second line of research that sheds light on the psychosocial processes that promote resilience considers the coping mechanisms that individuals employ during stressful life events. Chess (1989) identified "adaptive distancing" as the psychological process whereby an individual can stand apart from distressed family members and friends in order to accomplish constructive goals and advance their psychological and social development. Adaptive distancing may be only one of a family of coping mechanisms that individuals employ as they successfully adapt to stressful events. Future research on resilience may provide empirical evidence of the types of coping mechanisms that resilient individuals employ.

Rutter (1990) and Chess and Thomas (1990) identified some of the adverse temperamental behaviors that children exhibit which can irritate caregivers and make the children targets of hostility. These behaviors include low regularity in eating and sleeping behaviors, low malleability, negative mood, and low fastidiousness. These attributes reduce a child's likelihood of receiving positive attention from adults. Even temperament, malleability, predictable behavior, mild-to-moderate emotional reactions, approaching rather than withdrawing from novel situations, and a sense of humor are attributes that

protect children and produce affection and support from adults. Children in stressful life circumstances who have an easy temperament are more likely to receive the social support necessary for surviving adverse life events. Being female and in good health are two attributes that have also been associated with resilient children (Benard, 1991). Overall, social competence, good problem-solving skills, independence, and a clear sense of purpose are the critical attributes of resilient children (Masten et al., 1990).

These attributes of social competence, good problem-solving skills and communication, independence, and sense of purpose were also noted in the findings from a study of high-achieving students from economically disadvantaged homes in urban schools. Using the National Education Longitudinal Study (NELS) data base (U.S. Department of Education, 1988), Peng, Lee, Wang, and Walberg (1991) conducted a study to identify unique characteristics and experiences of urban students of low socioeconomic status (SES) whose combined reading and mathematics test scores were in the highest quartile on a national norm, i.e., resilient students. They found that 9.2% of low SES urban students were in this category. These students had self-concepts and educational aspirations and felt more internally controlled than nonresilient students. They also interacted more often with their parents and were more likely to attend schools where learning is emphasized and students are encouraged to do their best.

Characteristics of Schools that Foster Student Resilience

Effective schools are powerful environments. Students can acquire resilience in educational environments that foster development and competence in achieving learning success. Effective educational practices have constituted a major research front since the mid-1970s (Cruickshank, 1990). School effectiveness has both macro-level and micro-level dimensions. The macro-level factors encompass the total school environment and related extraschool variables. Micro-level factors emphasize

the effectiveness of classroom instruction, including replicable patterns of teacher behaviors and student achievement. Both school- and class-level effectiveness have been heavily researched.

Many definitions of effective urban schools have emerged from the extant research bases. The Carnegie Foundation for the Advancement of Teaching (1988) has advanced a definition of an effective urban school based on 15 criteria. These criteria, expressed as questions, are listed below:

- Does the school have clearly defined goals?
- Does the school evaluate the language proficiency of each student? What evidence is there that students are developing their communication skills, both oral and written?
- What are the number and types of books being read by students?
- Does the school have a core curriculum for all students? What is the general knowledge of students in such fields as history, geography, science, mathematics, literature, and the arts? Is such knowledge appropriately assessed?
- What is the enrollment pattern among the various educational programs at the school? Specifically, what is the distribution between remedial and academic courses?
- Is the school organized into small units to overcome anonymity among students and provide a close relationship between each student and a mentor?
- Are there flexible scheduling arrangements at the school?
- Is there a program that encourages students to take responsibility for helping each other learn and helps make the school a friendly and orderly place? How well is it succeeding?
- What teaching innovations have been introduced during the preceding academic year? Are there programs to reward teachers who exercise leadership?
- Does the school have a well-developed plan of renewal for teachers and administrators?
- Is the school clean, attractive, and well-equipped? Does it have adequate learning resources such as computers and a basic library? Can the school document that these resources are used by students and teachers to support effective learning?
- Are parents active in the school and kept informed about the progress of their children? Are there parent consultation sessions? How many parents participate in such programs?
- Does the school have connections with community institutions and outside agencies to enrich the learning possibilities of students?
- What are daily attendance and graduation rates at the school?

- What changes have occurred in the dropout rate, in students seeking postsecondary education, and in students getting jobs after graduation? What is being done to improve performance in these areas?

The program features included in these criteria on effective urban schools are plausible. Indeed, it might be difficult to defend the idea that they are desirable only for inner-city schools. They appear, in fact, to correspond well with an extensive content analysis of approximately 200 research reviews of effective educational policies and practices that apply to schools in general (Wang, Haertel, & Walberg, 1990). One of the challenges for research on urban schools is to identify ineffective policies and practices. From the point of view of scientific parsimony and educational efficacy, such research might frugally hypothesize that effective policies transcend location, ethnic group, social class, subject matter, grade level, etc. The burden of proof might then be placed on showing convincing differential policies, i.e., those that work consistently well in some settings but consistently poorly in others.

Among the most perplexing questions in designing innovative, research-based intervention programs for improving students' learning outcomes has been the relative importance of the multiplicity of distinct and interactive influences on student learning. Findings from a recently completed synthesis on variables important to learning document the multidimensional nature of school effectiveness (Wang, Haertel, & Walberg, 1991). Results indicate that the proximal variables, such as student cognitive and metacognitive processes, classroom management techniques, teacher-student interactions, and the home environment, had a stronger and more pervasive impact on school learning than distal variables, such as school and district policies, demographic characteristics, and state policies and programs.

Studies of effective teaching provide a rich source of data on the micro-level variables that contribute to school effectiveness. During the past 10 years, a number of research syntheses were published that identified effective instructional practices (Reynolds, 1982; Slavin & Madden, 1989; U.S. Department of Education, 1986; van de Grift, 1990; Wang, Haertel, & Walberg, 1990; Williams, Richmond, & Mason, 1986). The consistent characteristics that have emerged include degree of

curriculum articulation and organization; maximized learning time; high expectations for student achievement; opportunity to respond; degree of classroom engagement; and student participation in setting goals, making learning decisions, and engaging in cooperative learning.

Many characteristics of effective schools emphasize the importance of a sense of student "involvement" and "belonging" that reduces feelings of alienation and disengagement. The more ways that a student feels attached to teachers, classmates, the school, and the instructional program, the more likely that participation in school functions as a protective shield against adverse circumstances. Student engagement and participation in school and classroom life promote self-esteem, autonomy, positive social interactions, and mastery of tasks. Perhaps more importantly, these positive outcomes have been shown to enhance life satisfaction and general well-being among urban teenagers (Maton, 1990).

Only a few studies have provided direct evidence on whether a particular set of school characteristics is effective in fostering resilience among students in inner-city schools. Many of the earlier studies conducted on effective schools found high levels of multicollinearity between desirable school characteristics and the SES characteristics of the communities being served (Stringfield & Teddlie, 1991). Characteristics of more effective schools were often associated with schools serving students from well-to-do neighborhoods. Some interesting alterable variables, however, have emerged from recent studies of the effects of urban schools.

In Phase III of the Louisiana School Effectiveness Study, 16 schools of varying SES levels were studied (Teddlie, Kirby, & Stringfield, 1989). These schools were classified as positive and negative outliers. Positive outlier schools were those that scored above their predicted achievement levels, while the negative outlier schools performed below their predicted achievement levels. The study documented variance in school, principal, and teacher activities within all SES levels. Greater achievement was obtained at schools that devoted a high percentage of time to tasks that made educational sense. The atmosphere was friendly in the schools that were performing at higher than expected levels of

achievement, but principals and teachers protected the time spent on academic tasks and ensured that students' academic programs were well coordinated. Principals were very engaged in school events, remained active in the selection and retention of their faculties, valued high academic achievement, and supported the library in the life of the school. Teachers who achieved higher levels of academic attainment employed teaching methods that involved planning, clearly specified management and disciplinary rules, active teaching of higher order thinking skills, and providing direct instruction when appropriate. In successful schools, they also held high academic expectations.

Maughan (1988) used a multilevel, fixed-effects research design in a three-year study of school experience and psychosocial risk in 50 multiethnic junior high schools. The findings demonstrate that schools that were successful with socially and economically disadvantaged students enjoyed strong leadership, faculty input on decision making, esprit de corps among staff, and strong parental involvement. Effective schools were described as having physically and emotionally pleasant surroundings. Classrooms were well-managed, and instruction was stimulating. Children had a strong voice in choosing the kinds of instructional activities and classes in which they participated. These successful schools functioned effectively for both boys and girls, as well as across ethnic groups and social classes.

These findings were also noted in a study by Peng, Weishew, and Wang (1991). Using the NELS data base (U.S. Department of Education, 1988), they identified inner-city schools that had high achievement scores despite their disadvantaged circumstances, i.e., resilient schools that "beat the odds." The resilient schools in their study were found to be more orderly and structured than the low-achieving inner-city schools. Parents of students from the resilient schools held higher educational expectations for their children.

There is an optimism among educational researchers and practitioners about the possibility of implementing what is known from research and practical wisdom. When effectively implemented,

effective strategies can shield children from the adversity that abounds in inner-city environments. In his compelling book entitled Fifteen Thousand Hours, psychiatrist Michael Rutter (1979a) argued that a school ethos of high expectations protects students against the debilitating effects of adversity. He found an important relationship between a school's characteristics and children's behavior problems. Problem behaviors decreased in schools designated as successful, and increased in unsuccessful schools. Variations in the rates of disruptive behavior were related to the ethos of the schools themselves. Thus, children living under conditions that are not supportive of psychosocial well-being may experience their school as a force for good or bad depending on the ethos of the school itself.

The review of research prepared by Benard (1991) also stressed the role that high expectations play in the development of resilience. Based on results of six major research studies, Benard reports that schools "...that establish high expectations for all kids--and give them the support necessary to achieve them--have incredibly high rates of academic success" (p. 11).

How a school remains effective is a question that has not received much attention. One of the disappointments of the school effectiveness movement has been the inability to maintain improved performance from year to year (Freiberg, 1989). Good and Brophy (1986) express this concern in reviewing the school effectiveness literature: " . . . the study of stability presents major technical and conceptual problems to those who study schools as organizational instructional units" (p. 587). Freiberg (1989) cites the work of Dworkin (1987) and Murnane (1975), who caution that variables associated with effective schools may differ in urban settings because student populations are very mobile--sometimes expanding, other times shrinking, but always changing. The positive effects of successful schools are amplified over time.

Research efforts to determine how schools become effective and how they maintain their effectiveness require recognition of the multidimensional nature of school effectiveness. Research on school effects, teaching practices, community and family influences, and student and teacher

characteristics must be examined in order to understand how inner-city schools can support high performance and resilience in their students. The intimate and informed relations among students, their peers and families, and educators in private (especially parochial) schools, smaller schools, and schools of choice, may explain their appeal and apparent achievement advantages (Boyd & Walberg, 1990; Coleman & Hoffer, 1987; Fowler & Walberg, 1991).

Characteristics of Communities that Foster Resilience

Designing successful educational programs also requires examining the institutions that effectively provide for the education, health, and human services needs of local communities. The role of these institutions needs to be studied to determine if they prevent or facilitate the cycle of "at-risk-ness" that adversely affects development and learning.

Benard (1991) has identified three characteristics of communities that foster resilience. These characteristics are: availability of social organizations that provide an array of resources to residents; consistent expression of social norms so that community members understand what constitutes desirable behavior; and opportunities for children and youth to participate in the life of the community as valued members. Hill, Wise, and Shapiro (1989) emphasize the role of communities as key contributors in the revitalization of failing urban school systems. Hill, Wise, and Shapiro believe that troubled urban school systems can only recover when the communities that they serve unite in decisive efforts to improve their performance.

One of the clearest signs of a cohesive and supportive community is the presence of social organizations that provide for healthy human development (Garmezy, 1991). Health care organizations, child care services, job training opportunities, religious institutions, and recreational facilities are only some of the myriad of social organizations that serve human needs. In communities where there is a large, well-developed, and integrated network of social organizations, there are fewer social problems (Miller & Ohlin, 1985).

Communities that hold and express standards for good citizenship provide protective mechanisms for residents. This is recognized most clearly in studies that explore the importance of cultural norms on student alcohol and drug use (Bell, 1987; Long & Vaillant, 1989). Nettles (1991) analyzed the effectiveness of community-based programs available to African-American youth. She found that school-based clinics are only partially effective in reducing risk. Community-based programs that fostered resilience provided more social support and adult aid, gave concrete help on tasks, and provided opportunities for students to develop new interests and skills.

The role of religion and faith has also been identified as a protective factor for at-risk students. Masten and her associates (1990) identified both the beliefs based on abstract relationships with religious protective figures and the concrete relationships with members of the religious community as protective factors. Religious beliefs are helpful across ethnic groups and social classes, and provide standards and expectations to guide children's behavior.

Urban communities often lack a well-integrated network of social organizations for children and youth. The services provided by these organizations are often compartmentalized and fragmented. In their analysis of the impact of social policies on the quality of human resources available to African-American youth, Swanson and Spencer (1991) emphasize the dual importance of finding ways to reduce risk and making opportunities and resources available in order to break the negative chain reactions associated with adversity. Because schools have the most sustained contact with children and their families, public education officials should take into consideration, when designing their school improvement programs, the potential benefits of coordinating and integrating childrens' services across school and community organizations (Holtzman, 1991; Kirst & McLaughlin, 1990; National Center on Education in the Inner Cities, 1990).

Some promising new modes of cooperation are already being explored around the country. New coordinating agencies have been created in some cities, for example, out of the offices of city mayors and

councils, working toward the coordinated involvement of businesses, labor unions, health-related resources, social agencies, and schools. But a number of these programs are quite new and are still seeking basic funding, leadership, and mechanisms for effective communication (Wang, 1991). Nevertheless, there is an emerging pattern of program design considerations across these new community enhancement models (National Center on Education in the Inner Cities, 1990). They include the following:

- Services needed by children, youth, and their families should be provided in a continuing fashion without artificial discontinuities. This suggests an important vertical coordinating function or coordination through time, as well as horizontal or cross-agency coordination.
- Definite strong provision must be made for staff to coordinate efforts across agencies. Such coordination requires time and effort.
- Agencies, including schools, must be ready to respond to leadership from various sources, not just the traditional "in-house" officer.
- There should be readiness to conduct services or programs in a variety of settings, going beyond traditional arrangements.
- Services are unlikely to be used unless there is very good communication concerning them. Basic information about programs must be spread in every community, and steps must be taken to inspire trust and confidence in the personnel and agencies involved.
- Opportunities should be sought to incorporate all kinds of community resources, including university resources and expertise in building community-school connections, especially through projects of a broad multidisciplinary and multiprofessional nature.

FOSTERING RESILIENCE: A NEW DIRECTION IN EDUCATIONAL RESEARCH AND DEVELOPMENT

Research on resilience, in general, and on identifying ways to foster resilience, in particular, has generated new approaches to studying and designing effective schools in the inner cities. This new research focuses not only on identifying causes of risk and adversity, but on understanding the protective mechanisms that reduce risk and enhance success of all students.

Much of the current research focuses on the influence of ethnic and socioeconomic status of at-risk students on their learning and school achievement, as well as ways that at-risk populations differ

from the mainstream. Lee, Winfield, and Wilson (1991), for example, found family characteristics to be an important differentiating factor between low- and high-achieving African-American students. Using the National Assessment of Educational Progress (NAEP) data sets (U.S. Department of Education, 1991), they found that higher achieving African-American students tend to come from higher social classes, and a higher proportion of higher achieving students have working mothers. In addition, these students are twice as likely, compared to their low-achieving counterparts, to attend Catholic schools (10% vs. 5%), and are somewhat more likely to come from urban areas.

Although schools make significant efforts to "remediate" or "compensate" for poor academic performance, many at-risk students still experience serious difficulties in achieving learning success. They need better help than they are now receiving. The prototypical remedial or compensatory education program often contributes to children's learning problems. As noted by Wang, Reynolds, and Walberg (1988), substantial evidence shows that students may actually receive inferior instruction when schools provide them with specially designed programs to meet their greater-than-usual learning needs. In many cases, selecting and tracking students for instruction in "specially designed" programs, based on certain perceived student differences, involves delivering radically different and not always appropriate content to some students (Allington & Johnston, 1986; Haynes & Jenkins, 1986; Oakes, 1986). There is a tendency to neglect fundamental content in these special programs, and to provide less instruction in higher order, advanced skills. For example, students with special needs are most likely pulled out of the regular reading classroom and receive drills in phonics, word attack skills, and vocabulary, whereas advantaged students are exposed to reading instruction that emphasizes comprehension and related higher order thought processes.

Similar experiences occur in mathematics instruction for low-achieving students and those considered at risk of failing or dropping out of school. Comprehension, problem solving, and higher order reasoning are less often emphasized in the instruction of these children. Classroom observational

studies document that these students experience less instruction on higher order skills than their advantaged counterparts (Oakes, 1986). Furthermore, teachers tend to underestimate what students with special needs or those considered at risk can do. They tend to delay the introduction of more challenging work and not provide students with a motivating context for learning (Knapp & Turnbull, 1990).

Research studies on resilience should focus on the complex interrelationships that characterize the development and functioning of resilient individuals, and interventions that foster such patterns of resilience. Lewis (1991) pointed to the need for a paradigm shift, away from research focusing on a single precipitating event to the interaction of a multitude of factors influencing behavior. Research should also take into account the context of the individual (ecological models), rather than ignore the context; use relative terms to describe behaviors, rather than traits or characteristics; specify underlying mechanisms that promote resilience, rather than identify a list of attributes of resilient children; and provide interpretation, including personal reflections, on the part of the children being followed, rather than depend only on objective assessments.

To date, few researchers have studied inner-city children using a research model that searches for educational risk and protective factors. A better understanding of the lives and educational potential of children and youth in the inner cities can be achieved in part by studying resilient children, resilient schools, and communities that foster healthy behavior in residents.

The Role of the Family in Fostering Resilience

The quality of the caregiving environment is central to the development of resilience. In examining the impact of the environment on resilience, the role of the family is a logical starting place. Parents and families provide the first protective agents in the child's environment (Masten, Best, & Garmezy, 1990). They note that parents:

> . . . nurture mastery motivation and self-esteem as well as physical growth. Parents provide information, learning opportunities, behavioral models, and connections to other resources. When these transactional protective processes are absent or are severely limited for prolonged periods, a child may be significantly handicapped in subsequent adaptation by low self-esteem,

> inadequate information or social know-how, a disinclination to learn or interact with the world, and a distrust of people as resources. (p. 438)

Studies of at-risk families seek to identify barriers that impede the development of children and features of the caregiving environment that fosters resilience.

Fostering resilience in children requires family environments that are caring and structured, hold high expectations for children's behavior, and encourage participation in the life of the family. These characteristics are among the protective factors that can foster resilience (Benard, 1991). Most resilient children have at least one strong relationship with an adult (not always a parent), and this relationship diminishes risks associated with family discord. Receiving care and affection is critical throughout childhood and adolescence, but particularly during the first year of life (Rutter, 1979b; Werner & Smith, 1982).

Rutter (1990) documented the importance of good parent-child relationships in a review of data from short-term prospective studies, intergenerational studies of high-risk populations, and studies involving retrospective recall of adults. Results from all these studies provide evidence that secure and supportive personal attachments early in life make it likely that individuals will be protected against adversity in later life. Positive social relationships throughout life also provide benefits. Positive, intimate relationships correlate with a positive self-concept and can enhance the individual's worth within the social network.

The impact of caring and support is exemplified in Rutter's (1979b) study of discordant families. Of children from discordant families, 75% exhibited conduct disorders when they failed to have a positive relationship with either parent, as compared to 25% when children maintained a good relationship with at least one parent. In their review of studies of competence under stress, Masten, Best, and Garmezy (1991) provided evidence that family instability and disorganization predicted school disruptiveness. Children whose families had a history of marital instability and frequent moves were more often rated as disruptive by peers and teachers. However, in contrast to these conclusions, there is some evidence

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that the stress produced in discordant families can be mitigated. Benard (1991) found that even though divorce produces stress, the availability of social support from family and community can reduce stress and yield positive outcomes.

A topic of research that has received more attention recently is the impact of mobility on childrens' lives. Recent statistics provided by the U.S. Department of Commerce (1987) documented that 19% of the nation's school-aged children move in a single year. Lash and Kirkpatrick (1990) report that some of these moves are the result of seasonal jobs (e.g., migrant farm workers), some reflect job or military transfers, and others are due to divorce and financial instability. Migration has shown to be a serious and pervasive risk factor for student learning among poor and minority children, as revealed by two large national surveys (Long, 1975; Straits, 1987). Moving generally keeps children of lower SES from attaining their normally expected achievement and grade level.

The effect of mobility is particularly large in one case. Moving from a community of lower SES to one of higher SES often results in substantial grade retardation of lower SES children (although it does not appear to affect middle SES children as much or at all). Early grade retardation is important, because it forecasts further retardation, poor achievement, and dropping out--a phenomenon known as the "Matthew effects" (Walberg, 1984; Wang, 1990).

Perhaps the most pressing problems facing inner-city families are the problems faced by the adolescents in the community--behavior problems, substance abuse, academic underachievement, and teenage pregnancy. The intervention literature strongly suggests that these problems cannot be addressed without direct involvement of the family (Liddle, 1991; Benard, 1991). The solution to many of these problems lies within the family.

Garmezy (1985) established the importance of several family-related variables in protecting children against adversity. These variables include family cohesion, family warmth, and the absence of discord. A supportive family environment is important to the development of resilience. In addition to

holding high expectations of children (i.e., that they will succeed in school and become good citizens in their community), households that are structured and employ consistent discipline, rules, and regulations produce better outcomes among children from at-risk families (Bennett, Wolin, & Reiss, 1988). Masten et al. (1990) related poor household maintenance and housekeeping to disruptiveness in school.

Benard (1991) points to the importance of children's participation in family and household activities in fostering resiliency. Benard cites the work of Werner and Smith (1982), who emphasized the value of assigned chores, caring for brothers and sisters, and the contribution of part-time work in supporting the family. These behaviors help establish that children can truly contribute and improve their circumstances. Helping behaviors on the part of children enhance their self-esteem and ultimately foster resilience.

Family Involvement with Schools

The importance of family involvement in enhancing children's school performance has been consistently documented (Chan, 1987; Epstein, 1984; Moles, 1982). Families' involvement has been found to facilitate increased communication between schools and homes. The active participation of family members in students' learning has improved student achievement, increased school attendance, decreased student dropouts, decreased delinquency, and reduced pregnancy rates. These results are present regardless of racial, ethnic, or social class membership (Peterson, 1989).

A series of research syntheses reported by Graue, Weinstein, and Walberg (1983) and Iverson and Walberg (1982) provided strong evidence that school-based family involvement programs work, and that there is a significant correlation between school achievement and features of the home environment. Furthermore, parents who participate in family involvement programs were found to feel better about themselves and more likely to enroll in courses that advance their own education (Flaxman & Inger, 1991). However, based on data drawn from the NELS study of eighth graders in 1988 (U.S. Department of Education), Peng and Lee (1991) found that direct parental involvement and assistance are not as

important as the availability of learning opportunities, frequent parent-child conversations, and higher education expectations. Furthermore, they found that having more family rules without complementary support does not relate to higher achievement.

Educational intervention programs designed to involve family members are also significantly more effective than programs aimed exclusively at students (Walberg, 1984; Weikart, Epstein, Schweinhart, & Bond, 1978). A research study on direct parental involvement was conducted by Comer (1986) in a low-performing school that ranked 32 out of 33 in New Haven, Connecticut. Using strategies for parent involvement over several years, the same school, populated by at-risk students, improved its rank to third out of 26 schools. Similar results have been attained with other low-performing schools. Comer attributes results to the success of management teams involving parents, parent-developed workshops, parent involvement in tutoring programs for children, and parents' assisting teachers in planning classroom activities.

Epstein (1987) developed a theory of family-school connections after recognizing four important microsystems that impact the development of children, families, peer groups, schools, and neighborhood/communities. The degree of overlap among these microsystems represents the extent to which they share values, goals, and understandings of the social and cultural processes governing everyday life. The greater the overlap among domains, the more common their cultures and structures. Generally, there is some evidence and strong logic behind an argument that the greater the overlap among microsystems, the more consistent their joint impact on the developing person. When the home, the school, peers, and the larger community are working together, the greater their impact is in a consistent direction.

Several types of family involvement programs are being implemented by schools across the country. Some programs involve families directly in school management and "choice" and encourage parents' actual presence in the school. Others are focused on training families in communication skills

and helping their children to develop good study habits and high expectations. Still others focus on family resource and support programs. These programs provide a host of direct services to families and children. They may involve home visits, job training, career counseling, health care, mental health, and social support services (Wang, Haertel, and Walberg, 1992).

The Role of Teachers in Fostering Resilience

The importance of external support systems as protective mechanisms that enable children to cope under adverse conditions has been stressed in the literature on childhood resilience. Teachers can play an important role in reducing stress by providing the positive supports needed by children in adverse conditions. The contribution of teachers has been documented in the words of the children of Kauai who took part in Werner's (1989) longitudinal study of the long-term effects of prenatal and perinatal stress. Of the 142 high-risk children identified in her study, 72 "beat the odds" and became competent, successful adults. Describing these "resilient" children as "easy-going" and "even-tempered," teachers praised the students' problem-solving abilities and competence in reading. The school became a home away from home for the children; it was a refuge from a chaotic home life. Favorite teachers became role models in whom the children confided when their own family was threatened by dissolution.

The value of teachers providing concern and support is also described by Benard (1991), who quotes Noddings (1988):

> At a time when the traditional structures of caring have deteriorated, schools must become places where teachers and students live together, talk with each other, take delight in each other's company. My guess is that when schools focus on what really matters in life, the cognitive ends we now pursue so painfully and artificially will be achieved somewhat more naturally. . . . It is obvious that children will work harder and do things--even odd things like adding fractions for people they love and trust.

In their study of public and private high schools, Coleman and Hoffer (1987) point to the role of caring and engaging teachers in helping high school students develop the values and attitudes necessary for persevering in their schoolwork and achieving high grades. They stress the importance of the

personal relationships among teachers and students--sustained, inter-generational, intimate relationships of moderate intensity that support students' academic and social endeavors.

A major risk factor that contributes to learning problems encountered by students, particularly in inner-city schools serving students from diverse ethnic and cultural backgrounds, is the disconnection between schooling experience and family life. Among some of the most critical facilitating factors ameliorating this problem of disconnection are teachers' sensitivity to student diversity and their ability to provide learning experiences that are responsive to individual differences. Effective teachers serve to reduce vulnerability and stress and use a variety of strategies to ensure the personal and academic competence of their students.

Students bring to the learning situation a diversity of cultural and language backgrounds and prior knowledge. These differences may be important sources of variation on how and what students learn. How students interact with the classroom and school environment and the demands for school learning can limit or enhance the students' access to learning resources and, therefore, learning success. Effective teachers play an important mediating function in minimizing "risk" or vulnerability and maximizing resources that can serve to enhance student development and promote resilience.

Campione and Armbruster (1985) point out that children with excellent comprehension skills usually relate new information to their personal experiences. Differences in prior knowledge may be the product of cultural differences. These differences may be important sources of variation in students' strategy use and in their learning outcomes. Students from culturally diverse backgrounds may not only have difficulty accessing background knowledge, they may also have knowledge deficits. They may not be able to access prerequisite prior knowledge without help from teachers. This lack of background knowledge is sometimes remediated by using culturally relevant texts and materials. Palincsar and Klenk (1991) recommend that teachers use universal themes with which all students can identify as a method to make new content more easily accessible. Effective teachers who are familiar with the types of

background experiences students bring to the classroom not only select materials that are culturally relevant, but make it easier for the students to relate to their classroom experience and to access their prior knowledge.

Recently Ogbu (1992) identified several ways that teachers can help at-risk children with cultural and language difficulties perform in school. He recommends that teachers learn about students' cultural backgrounds and use the knowledge to organize their classrooms and instructional programs. Teachers can gather information about the cultural backgrounds of at-risk students through: observing students' behaviors; asking students and their families questions about their cultural practices; conducting research on ethnic groups in the school setting; and reviewing published research on children from different cultural groups. The information teachers gather can then be used to design and implement instructional programs, to help students get along with each other, and to improve communication among school staff and students' families. In all cases, however, recognition of cultural diversity, which can foster resilience, must be based on actual knowledge of different cultural groups and how these cultures differ from the mainstream culture. According to Ogbu, teachers can increase the success of interventions by recognizing whether the cultural frame of reference of an at-risk minority is oppositional to the cultural frame of reference of mainstream American culture. Without taking these differences into account, teachers will be less able to increase learning and self-esteem among at-risk students. If at-risk students are immersed in a culture which has an oppositional framework to the mainstream culture, they may be less inclined to communicate with school personnel and peers from different ethnic groups and are likely to participate less fully in the life of the school.

Teachers effective in responding to student diversity also acknowledge the importance of individual difference variables in their planning and interactions with students. They use a variety of strategies in creating classroom learning environments that maximize each student's opportunities for learning success (Corno & Snow, 1986; Wang, 1990; Wang & Walberg, 1985). Below is a list of some

of the methods identified by Corno and Snow (1986) that teachers use to adapt instruction to student differences to ensure the learning success of every child.

- Manipulate classroom organizational structures, such as the use of short-term, nonstigmatizing groups, learning centers, and reward structures.
- Vary the use of materials that present new information and support problem-solving, including varying the amount of time spent on reviewing previously learned materials, the number of examples used to provide further explanation and illustration, the use of summaries, points of emphasis, and modeling.
- Vary the types of support materials used, including aides, peer tutoring, a variety of media, and other methods.
- Vary the amount of instructional support and available time for learning to accommodate the needs of the individual student.
- Vary the level, form, and number of questions asked. Ask more higher order questions so that students must go beyond the material they were presented.
- Vary the nature and amount of reinforcement given for correct answers, as well as the level of information provided when a student gives an incorrect answer.
- Enhance the students' use of inquiry processes by implementing "inductive teaching" strategies.
- Vary the ways information is presented during instruction to prompt students to give their own examples of new principles or content learned.
- Facilitate students' use of self-regulating techniques, such as self-monitoring or self-reinforcement, by providing a variety of problem-solving opportunities in the classroom instruction-learning process.

The role of instructional mediation has been identified as an important resource for students, particularly those from diverse cultural backgrounds and/or those requiring greater-than-usual instructional support. Different instructional activities place different cognitive demands on students and can alter their information-processing burden. Learning complicated material is difficult and requires a variety of mental resources, including cognitive processing of the new information and metacognitive activity. Instruction mediates student cognition. As instruction bears more of the information-processing burden, a student's general intellectual abilities are less critical. Little instructional mediation provides many opportunities

for students to discover more principles and concepts themselves. An example of more instructional mediation might involve the use of teachers modeling cognitive skills. In this case, the teacher provides a model of expert performance, giving novice learners an opportunity to see how new problems are solved. Examples of teachers modeling powerful thinking strategies include teachers thinking aloud as they read a text; talking aloud as they solve a mathematics problem; and allowing students to watch them plan and revise an essay (Means & Knapp, 1991).

Expert scaffolding is another technique that has been shown to be effective in enabling students to handle a complex task by the teacher providing guided practice (Collins, Brown, & Newman, 1990). Both the use of mediated instructional techniques and expert scaffolding have been found particularly effective with students with special needs or those otherwise considered to be at risk (Corno & Snow, 1986; Feurstein, 1980; Means & Knapp, 1991).

In addition to providing supportive instruction, effective teachers serve to foster resilience by finding ways to promote self-concept and self-responsibility for active learning (Wang & Palincsar, 1989). As Bandura (1977, 1982) explicated in his cognitive theory of self-efficacy or perceived self-competence, self-efficacy is best promoted through mastery of new experiences. When students become convinced they are instrumental in their learning success, they work harder to overcome difficulties.

Students develop information about their own efficacy from several sources, including: memories of similar past experiences; watching peers, teachers, and others master a task; attending to their own level of motivation and interest in the task; and persuasion and exhortation by others (Winne, 1991). These sources help students develop expectations for their own success. Teachers can foster resilience by providing students with opportunities to set realistic expectations, and by helping them master new experiences. Teachers who work to develop their students' ability to be active learners help strengthen students' ability to overcome adversity.

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The role of mentoring has evolved during the past decade and many school reformers believe it to be a powerful intervention. This belief is based in part on the work of researchers such as Lefkowitz (1986), who highlighted the role of caring adults in fostering resilience. Lefkowitz reported that the majority of 500 at-risk youths identified a caring adult as contributing strongly to their success. Mentoring programs in schools have been developed to address problems such as school dropouts, school-to-school transitions, school-to-work transitions, drug and alcohol use, teen pregnancy and parenting skills and family literacy (Benard, 1992). Typically, these programs have involved not only teachers, but a variety of school personnel and community members. Nevertheless, in schools, teachers play a key role in providing empathic support to pupils and in assisting students to set achievable goals; two behaviors involved in successful mentoring. Although many educators have regarded mentoring as a successful intervention that can contribute to programs designed to break the cycle of disadvantage, Benard (1992) cautions that the long-term effectiveness of planned mentoring programs has not yet been established. The effectiveness of spontaneous mentoring versus planned mentoring needs to be further explored. However, teachers are in frequent contact with students and along with other adults in the school environment can be encouraged to be supportive and caring to students, and thus promote resilience.

The Rôle of Peer Support in Fostering Resilience

The academic achievement of at-risk students is the product not only of a child's intellectual ability, but also the school's climate and the social support networks available from families. Clark (1991) states that after the family, peers are the most important source of support. Social support networks from peers provide children and adolescents with a sense of being valued, cared for, and loved. These support networks not only facilitate the development of an individual, but serve as a protective shield against stress. Peers, family, and the school support system can all provide protection.

Coleman and Hoffer (1987) describe how students in boarding schools are supportive of their friends when their families disengage. Other strong support for the influence of peers is that the use of

cooperative learning strategies is the single most effective school-based intervention for reducing alcohol and drug use (Bangert-Downs, 1988). Similarly, Watt et al. (1990) provide evidence that children of divorced parents find respite from stressful home situations through an external social network that allows them to distance themselves from stressed parents ("adaptive distancing"). The school performance of children of divorce is affected by the peer social network in which they participate, more so than the school performance of children from intact homes. Children of divorce find companionship, love, self-esteem, and care from school friends to a greater degree than children from intact homes.

Research also suggests that peers have a significant impact on a student's self-perceived academic competence and attitude toward school. Cauce (1986) found that the peer group's attitude toward school was a significant predictor of grades, achievement test scores, value placed on being a good student, and perceived competence. Patchen (1982) also found that students with peers who valued high achievement spent more time on homework, finished more of their homework assignments, attended school more regularly, were tardy less often, and missed class without permission fewer times.

Peers exert significant influence on students. Opportunities to interact with students who have high achievement motivation, positive attitudes toward school, and a positive academic self-concept are beneficial to students who are considered at risk or require special or compensatory education programs. Mentoring programs, cooperative learning programs, cross-age tutoring, use of small learning groups, and extracurricular activities provide mechanisms for children and youth to develop positive peer relationships and stronger support networks that serve as a protective process to foster resilience.

CONCLUSION AND FUTURE DIRECTIONS

The meaning of the term "resilience" offers a provocative challenge to educational researchers and practitioners. In a single word, it can suggest several useful notions and priorities. For educators, the term "resilience" suggests the potential benefits of early experience; the need to mitigate adverse subsequent circumstances; and the importance of educationally important and alterable risk and protective

factors in communities, homes, peer groups, schools, and classrooms. For educational researchers, it offers the intriguing hypothesis that early alterable (possibly sustained) conditions fortify students to persist successfully through inevitable and endemic difficulties.

The construct of resilience has been studied for nearly two decades by psychiatrists, clinical psychologists, developmental psychologists, and other mental health professionals. Originally, their research focused on identifying the characteristics and attributes of children who were resilient. Over time, the focus of this research shifted to determining the protective mechanisms and processes that foster resilience.

A parallel development emerged in educational research in the 1980s. Researchers began to recognize that, like children who "beat the odds" in the developmental psychopathology data base, some schools have been more effective in achieving higher levels of learning success of their students than would be expected, given their multiple risk factors. These schools had high achievement gains despite serving impoverished families and communities with multiple adversities and few resources.

The rich research bases of developmental psychopathology and effective instruction and school effects can help identify educational practices that inspire and sustain achievement of all students, including and especially those considered to be at risk. The research bases can also help identify school/community connections that serve to mobilize resources, promote positive attitudes and behavior that strengthen the enabling role of families, and ensure student learning success. These lines of research point to characteristics of successful inner-city schools; the process by which unsuccessful inner-city schools are turned around; ways to create protective mechanisms and resources in inner cities to ensure student outcomes; and analysis of the schools' programs, climate, ethos, teachers, and other salient features, to determine biological, psychological, and environmental sources on resilience (National Center on Education in the Inner Cities, 1990).

New research that addresses the concern of factors influencing educational resilience and ways to foster educational resilience is beginning to emerge. It can develop a better understanding of student diversity by studying children who perform at the margins of achievement, and using sophisticated statistical techniques such as data envelopment analysis to identify efficient and effective schools. Along with research on resilient children and schools, there has also been an increase in research on the role of communities in fostering competence and resilience. New research studies aiming to better understand the ecology of cities point to the many factors--economic, political, and sociological--that influence inner-city educational outcomes. Attention is also being paid to the ways to coordinate school and community services in order to make a more integrated network of resources and protective mechanisms available to children and their families.

Considerable educational research on school learning and other educational outcomes is consonant with the concept of resilience advanced in studies of developmental psychopathology. In the absence of definitive research, however, it may be reasonable for educators to focus on the implications of intervention studies that will provide direct evidence for understanding educational resilience and the mechanisms for fostering it. It seems imperative and urgent for researchers to probe the validity and extent of the idea over extended periods of time. By definition, resilience implies longitudinal studies of critical segments of the life course.

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The National Center on Education in the Inner Cities

The National Center on Education in the Inner Cities (CEIC) was established on November 1, 1990 by the Temple University Center for Research in Human Development and Education (CRHDE) in collaboration with the University of Illinois at Chicago and the University of Houston. CEIC is guided by a mission to conduct a program of research and development that seeks to improve the capacity for education in the inner cities.

A major premise of the work of CEIC is that the challenges facing today's children, youth, and families stem from a variety of political and health pressures; their solutions are by nature complex and require long-term programs of study that apply knowledge and expertise from many disciplines and professions. While not forgetting for a moment the risks, complexity, and history of the urban plight, CEIC aims to build on the resilience and "positives" of inner-city life in a program of research and development that takes bold steps to address the question, "What conditions are required to cause massive improvements in the learning and achievement of children and youth in this nation's inner cities?" This question provides the framework for the intersection of various CEIC projects/studies into a coherent program of research and development.

Grounded in theory, research, and practical know-how, the interdisciplinary teams of CEIC researchers engage in studies of exemplary practices as well as primary research that includes longitudinal studies and field-based experiments. CEIC is organized into four programs: three research and development programs and a program for dissemination and utilization. The first research and development program focuses on the *family* as an agent in the education process; the second concentrates on the *school* and factors that foster student resilience and learning success; the third addresses the *community* and its relevance to improving educational outcomes in inner cities. The focus of the *dissemination and utilization* program is not only to ensure that CEIC's findings are known, but also to create a crucible in which the Center's work is shaped by feedback from the field to maximize its usefulness in promoting the educational success of inner-city children, youth, and families.

CEIC Senior Associates

Margaret C. Wang
Director, CEIC and CRHDE
Professor of Educational Psychology
Temple University

Aquiles Iglesias, Associate Director, CEIC
Associate Professor and Chair,
Speech-Language-Hearing
Temple University

Lascelles Anderson
Professor and Director,
Center for Urban
Educational Research and
Development
University of Illinois
at Chicago

David Bartelt
Associate Professor of
Geography and Urban
Studies and Director,
Institute for Public
Policy Studies
Temple University

William Boyd
Professor of Education
Pennsylvania State
University

Gayle Dakof
Visiting Assistant
Professor of
Counseling Psychology
Temple University

H. Jerome Freiberg
Professor of Curriculum
and Instruction
University of Houston

Michael Goetz
Associate Professor
of Economics
Temple University

Geneva Haertel
Senior Research Associate
CRHDE
Temple University

Howard Liddle
Professor of Counseling
Psychology
Temple University

Maynard C. Reynolds
Professor Emeritus of
Educational Psychology
University of Minnesota

Leo Rigsby
Associate Professor
of Sociology
Temple University

Judith Stull
Associate Professor of
Sociology
La Salle University

William Stull
Professor and Chair,
Department of Economics
Temple University

Ronald Taylor
Associate Professor of
Psychology
Temple University

Herbert J. Walberg
Research Professor
of Education
University of Illinois
at Chicago

Hersholt C. Waxman
Associate Dean for
Research and Associate
Professor of Curriculum
and Instruction
University of Houston

Kenneth Wong
Associate Professor
Department of Education
and Social Sciences
University of Chicago

William Yancey
Professor of Sociology
Temple University

Andrea Zetlin
Associate Professor
Special Education
California State
University, Los Angeles

For more information, contact Jesse R. Shafer, Information Services Coordinator (215/204-3000)